

## OIB - Other: NOAA P-3 05/12/16 Science Report

**Aircraft:**

Other: NOAA P-3

**Date:**

Thursday, May 12, 2016

**Mission:**

OIB

**Mission Location:**

Kangerlussuaq, Greenland

**Mission Summary:**

Mission: Southeast Coastal A (priority: baseline)

This mission reflies a 20-km coast-parallel grid along the southeast Greenland coast, enabling direct measurement of  $dh/dt$  in the catchment areas of the many major glaciers in the area across a range of surface elevations. This mission plan originally included centerlines of the Fritdjof and Ikertivaq Glaciers, but we had to remove these lines to shorten the flight by almost one hour. This in turn was necessitated by yesterday's hydraulic leak, which required a lengthy evening repair effort by members of the flight crew, and this delayed our takeoff today by several hours. This flight retains a high priority for 2016 because it continues an intra-annual time series with the spring and fall 2015 campaigns along these lines.

The Iceland Low, a semi-permanent storm system usually situated near Iceland and the Denmark Strait, had moved well to the north over the past several days. At the same time, somewhat rare high pressure had been building over the Denmark Strait overnight. This created an ideal meteorological setup for flying in southeastern Greenland, which enjoyed an absence of both clouds and high winds (and the associated near-surface turbulence) today. Most other science targets reachable from Kangerlussuaq, including the Jakobshavn area, were clouded, making the selection of this baseline mission an easy one. We encountered low clouds only over roughly the westernmost 100 miles of the east-west transit lines, plus a few low clouds at the extreme southern end of the southeastern lines.

All instruments performed normally today. However, the aircraft experienced a partial recurrence of yesterday's hydraulic leak less than two hours into today's mission. The flight crew was able to isolate and stop the leak in short order, but not before some of the hydraulic fluid escaped and partially coated the exterior of the ATM and DMS nadir windows. Rob Russell and Alexey Chibisov of the ATM team responded by increasing the laser power throughput of the ATM to its maximum level, and by this method successfully obtained ATM data throughout the mission. DMS imagery suffered from the fouled window to a noticeable degree, but continued operating throughout the flight.

Overall, we estimate successful data collection across 90% of the mission, with only the western portions of the two transit lines experiencing significant data loss.

We conducted a ramp pass over Kangerlussuaq at 1500' AGL today.

**Data volumes:**

ATM: 28 Gb

FLIR: 3.6 Gb

DMS: 79 Gb

Ku-Band Radar: 193 Gb

MCoRDS: 1.3 Tb

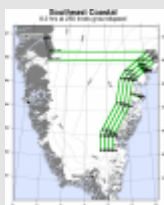
Snow Radar: 193 Gb

BESST: xx Gb

total data collection time: 6.5 hrs

**Images:**

### Map of today's flight



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## Fog at Sermilik fjord



[Read more](#)

## Heimdal Glacier



[Read more](#)

### Submitted by:

John Sonntag on 05/12/16

### Related Flight Report:

## Other: NOAA P-3 05/12/16

### Flight Number:

Land Ice Southeast Coastal

### Payload Configuration:

OIB Spring 2016

### Nav Data Collected:

No

### Total Flight Time:

7.3 hours

### Submitted by:

John Woods on 05/12/16

### Flight Segments:

<b>From:</b>	BGSF	<b>To:</b>	BGSF
<b>Start:</b>	05/12/16 13:42 Z	<b>Finish:</b>	05/12/16 21:12 Z
<b>Flight Time:</b>	7.3 hours		
<b>Log Number:</b>	<a href="#">16M030</a>	<b>PI:</b>	Nathan Kurtz
<b>Funding Source:</b>	Bruce Tagg - NASA - SMD - ESD Airborne Science Program		
<b>Purpose of Flight:</b>	Science		

### Flight Hour Summary:

	<b>16M030</b>
<b>Flight Hours Approved in SOFRS</b>	200
<b>Total Used</b>	148.7
<b>Total Remaining</b>	51.3

### 16M030 Flight Reports

Date	Flt #	Purpose of Flight	Duration	Running Total	Hours Remaining
<a href="#">03/22/16</a>	ICF1	Check	2	2	198
<a href="#">03/23/16</a>	ICF2	Check	3.4	5.4	194.6
<a href="#">04/12/16</a>	ICF3	Check	1.3	6.7	193.3
<a href="#">04/15/16</a>	Repo 1	Ferry	0.5	7.2	192.8

<a href="#">04/16/16</a>	Repo 2	Ferry	2.9	10.1	189.9
<a href="#">04/18/16</a>	Repo 3	Ferry	7.1	17.2	182.8
<a href="#">04/19/16</a>	Sea Ice Eureka	Science	7.3	24.5	175.5
<a href="#">04/20/16</a>	Sea Ice Laxon Line	Science	8.7	33.2	166.8
<a href="#">04/21/16 - 04/22/16</a>	Sea Ice SIZRS Zigzag	Science	8.3	41.5	158.5
<a href="#">04/30/16</a>	Sea Ice South Basin Transect	Science	8.8	50.3	149.7
<a href="#">05/03/16</a>	Sea Ice North Pole Transect	Science	7.6	57.9	142.1
<a href="#">05/04/16</a>	Sea Ice South Canada Basin	Science	7.9	65.8	134.2
<a href="#">05/09/16</a>	Land Ice Zachariae-79N	Science	7.6	73.4	126.6
<a href="#">05/10/16</a>	Land Ice Northwest Coastal A	Science	6	79.4	120.6
<a href="#">05/11/16</a>	Land Ice Umanaq B	Science	7.1	86.5	113.5
<a href="#">05/12/16</a>	Land Ice Southeast Coastal	Science	7.3	93.8	106.2
<a href="#">05/13/16</a>	Land Ice Helheim- Kangerdlugssuaq	Science	7.8	101.6	98.4
<a href="#">05/14/16</a>	Land Ice SW Coastal A	Science	7.8	109.4	90.6
<a href="#">05/16/16</a>	Land Ice Thomas- Jakobshavn 01	Science	7.9	117.3	82.7
<a href="#">05/17/16</a>	Land Ice Helheim- Kangerdlugssuaq Gap B	Science	8.1	125.4	74.6
<a href="#">05/18/16</a>	Land Ice IceSat-2 Central	Science	7.7	133.1	66.9
<a href="#">05/19/16</a>	Land Ice East Glaciers 01	Science	7.1	140.2	59.8
<a href="#">05/21/16</a>	Ferry BGSF_KMCF	Ferry	8.5	148.7	51.3

*Flight Reports began being entered into this system as of 2012 flights. If there were flights flown under an earlier log number the flight reports are not available online.*

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NASA Official: Bruce A.

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